



STATE OF MAINE
DEPARTMENT OF CONSERVATION
MAINE FOREST SERVICE
Insect And Disease Laboratory
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IDM Home Page: <http://www.maine.gov/doc/mfs/idmhome.htm>

Forest & Shade Tree - Insect & Disease Conditions for Maine July 18, 2008

The 2008 season so far has been a reasonably good one in terms of adequate moisture and near normal temperatures. Forests and most landscape and ornamental trees across the state appear to be in good general condition. However, as the warm and dry summer weather of the past two weeks continues, trees will become increasingly stressed, and health problems can quickly arise. This is especially true for landscape stock that has been established this spring, or even within the past one or two years. If not already underway, good soil moisture management practices should be considered now for all woody transplants. This most obviously includes adequate watering. Watering during the evening hours, overnight, or early morning is best. Various soaker-hose and drip irrigation systems have proven to be most effective, both in terms of efficiency of delivery to root systems, and in terms of water usage. In addition, the judicious use of loose mulches in planting beds and around root areas will also help reduce evaporation rates. Don't wait for trees to start showing stress symptoms before providing relief. Affording such attention now to these most susceptible plant materials will insure their health throughout the remaining summer, and will prepare them for the fall and winter seasons as well.

Hemlock Woolly Adelgid Found in Saco

Ferry Beach State Park ranger, Janet Mangion, discovered hemlock woolly adelgid while pruning trees along the park access road in late June. Since then we have been working with park personnel to determine the level of infestation and how to address areas such as trails that are at high risk of spreading the adelgids. Survey results indicate a low-level, spotty presence of the adelgid in the park. Park rangers have pruned infested hemlock material likely to be encountered by hikers, picnickers and other park users. An integrated management approach will be developed as we gain a better understanding of the extent of this infestation. This infestation is several towns removed from the generally infested area, and intensified surveys of hemlock stands in Kennebunk, Kennebunkport, Arundel and Biddeford are planned. Readers in the area are encouraged to look for signs of the adelgid on hemlocks they encounter. Look for sessile, white woolly masses on the undersides of hemlock twigs, attached at the bases of needles. Report any suspect findings to the Insect and Disease Lab at: (207) 287-2431; 50 Hospital Street, Augusta, ME 04330 or allison.m.kanoti@maine.gov.

A link to the Department of Conservation press release can be found at the bottom of the hemlock woolly adelgid information page: www.maineforestservice.org/HemlockWoollyAdelgid.htm.

Purple Traps Deployed to Detect Emerald Ash Borer

The Emerald Ash Borer (EAB), a metallic woodboring beetle from Asia, was first found in North America near Detroit, Michigan in 2002. It has since spread to eight states and two Canadian provinces. One of the most recent finds was made in June 2008 in the province of Quebec, southwest of Montreal. That is only 200 miles and less than a four hour drive from the Maine border. Just last week EAB was found in Virginia.

The larvae of this beetle feed on the inner bark of ash trees disrupting the flow of water and nutrients and kill the tree by girdling it. The adults chew on the leaves a bit but do no significant damage to the trees. Because the larvae are hidden during development, this insect is easily moved on firewood.

The Maine Forest Service, Maine Department of Agriculture and USDA Animal Plant Health Inspection Service have hung over 70 traps in ash trees on campgrounds, nurseries and other likely sites for EAB detection. If you run across one of these traps, you may think somebody has gotten their kite tangled in a tree. The large purple traps - triangular cardboard prisms coated with a sticky substance - are set high in the tree canopy.

Other methods of detection employed by the agencies and their cooperators include trap trees - in which live ash are girdled to attract the insects - and biosurveillance. Biosurveillance uses a native wasp that is a metallic woodboring beetle predator to monitor for the presence of EAB. More information about biosurveillance efforts can be found at: <http://www.maine.gov/doc/mfs/fhm/pages/Helpfulwasps--Cercerisfumipennis.htm>.

Hemiptera Blitz at Acadia National Park

This year the Maine Forest Service is once again co-sponsoring an Insect Blitz with Acadia National Park (ANP). This year the focus will be on True Bugs, Order Hemiptera. This group covers insects with beaked mouthparts and incomplete metamorphosis and includes long-horned bugs, hoppers, spittlebugs, and cicadas. Although aphids, scales, mealybugs, jumping plant lice and whiteflies are also in this order, the blitz will not focus on them this year. The Blitz this year is scheduled for August 9-10, 2008 at Schoodic Point, Winter Harbor, Maine.

The goal of the Blitzes is to help ANP learn what lives in the park so that they can do a better job of protecting everything that is a part of the ecosystem. This benefits all of us by increasing our understanding of what lives here with us in Maine. To date Blitzes have covered ants, moths & butterflies, beetles, flies and spiders. Each year new species for Maine have been added to those already known to exist here. Experts and amateurs join together to collect as many different species as can be found in 24 hours and then pin, label and identify each specimen. The ANP Blitzes attract taxonomists from all over North America and have gained high acclaim.

Two Somerset County Towns Added to the Gypsy Moth Quarantine Area

The Maine Forest Service uses pheromone baited traps to detect gypsy moth populations in towns north of the gypsy moth quarantine. Each year after the leaves drop Maine Forest Service, Maine Department of Agriculture and USDA Animal Plant Health Inspection Service personnel look for gypsy moth egg masses in areas with high trap catches. As a result of egg mass surveys conducted last year, the Somerset County towns of Pierce Pond Township and T3 R4 BKP WKR have been added to the Federal Gypsy Moth Quarantine Area. More information about the gypsy moth quarantine can be found at: www.maineforestservice.org/idmquar.htm.

Insects

Arborvitae leafminer (4 species) – These tiny larvae feed or “mine” between the top and bottom layers of the cedar foliage causing it to turn brown. The larvae then pupate either in the mines or outside them depending on the species. Most adult leafminers will have emerged as moths, mated and laid eggs by now so any control work should be put off until August when the larvae hatch and begin mining the foliage. See issue 3 for control recommendations.

Aspen Serpentine Leafminer (*Phyllocnistis populiella*) – Quaking aspen in Aroostook county from the Allagash down to Patten were heavily infested with serpentine leafminers winding their way through the leaf tissue. This tiny moth usually does not create lasting problems for the trees.

***Fall Webworm** (*Hyphantria cunea*) – Small fall webworm nests are beginning to be apparent and numbers are expected to be high again this year. Same drill as in past years - look for loose tents containing tiny, grayish, fuzzy caterpillars on alder, apple, ash, beech, birch, cherry, elm and oak. Clip and destroy these small developing tents to help reduce the problem locally. Carbaryl (Sevin), Diazinon, acephate (Orthene) and Bt are registered for use against this pest.

Hickory Tussock (*Lophocampa caryae*) - Although Maine does not have a lot of hickory we do have hickory tussock moths and this year the larvae have been spotted in both northern and western Maine feeding on birch. The larvae feed gregariously on leaves of a number of trees including birch, black locust, quaking aspen, elm, butternut and of course hickory. When nearly fully grown the larvae then feed singly and wander quite a bit before pupating on the ground. Although these are lovely looking black and white caterpillars they can cause a rash if the unsuspecting person picks them up for a closer look. Although hickory tussock may be locally abundant, they rarely cause much damage to trees.

Japanese Beetle (*Popillia japonica*) – The grubs of Japanese beetles have finished feeding on the roots of your lawn and ornamentals and now the adults are out chowing down on over 300 different types of plants! Trees attacked by Japanese beetle include apple, elm and birch as well as other hardwoods.

Maple Trumpet Skeletonizer (*Epinotia aceriella*) – The larvae of the maple trumpet skeletonizer has started feeding on maple trees in central Maine. Last year this insect was widespread across the state and may be again this year. Generally the damage caused by the feeding is minimal and is mostly an esthetic problem.

Mountain Ash Sawfly (*Pristiphora geniculata*) - The larvae of the mountain ash sawfly are feeding now and damage is apparent on trees infested with this pest. If numbers do not appear to be that great, wait until next year and either clip off the infested branches or treat when the larvae have just hatched in late June.

***Oak Twig Pruner** (*Anelaphus parallelus* and *A. villosus*) – Oak branches on the ground this time of year are usually a clue that longhorned beetles have been boring in the branches. A look at the end that has been cut will reveal a smoothly chewed end with an oval hole packed with what looks like sawdust. Break the branch and it is hollow, split up the branch and there will be a larva in there all set to overwinter. Picking up the branches and destroying them will help reduce the beetle population if the dropped branches are an esthetic problem.

Oak Skeletonizer (*Bucculatrix ainsliella*) – The first generation of oak skeletonizer larvae are finishing up feeding on the leaves of oak trees along the coast. They will then spin down on silken threads and form

cocoons that look like ribbed grains of rice. A second generation of larvae will begin feeding in August. The larvae feed on the underside of the leaves leaving the veins and making lacy looking damage on the leaves. In some years damage can be heavy enough to weaken trees and cause branch dieback. There are recommendations for raking and destroying leaves to reduce the population but I have observed so many cocoons formed on other trees, screens and other objects that I am not sure how effective it would be.

***White Pine Weevil (*Pissodes strobi*)** - It's not too late to correctively prune infested white pine leaders. Although larvae have dropped out of the leaders in southern and central Maine, pruning will still help trees to retain their upright stature. Prune back to the first healthy whorl of branches and remove and destroy infested branches (the larvae may still be in the leaders in northern Maine and destroying them will help reduce the population.). Then select the best lateral of this top whorl and prune off all remaining laterals leaving the single best lateral to form a new leader.

***Yellowheaded Spruce Sawfly (*Pikonema alaskensis*)** – Numbers of yellowheaded spruce sawfly seem to be up slightly this year with more damage observed and increased numbers of calls. Larvae are gaining size now and defoliation is becoming obvious on roadside spruces. Control now with Spinosad or carbaryl to limit damage.

Diseases and Injuries

Branch Dieback of Maples (*Verticillium albo-atrum*; *Verticillium dahliae*) - Maples in several towns and suburban areas are now showing symptoms of *Verticillium* wilt. Symptoms of this widely distributed disease have been observed in particularly high levels in Lewiston and Bangor. Trees in many other areas, including Augusta, Dresden, Presque Isle, Rome, and Topsham have also been seen with symptoms likely the result of *Verticillium* infection. Norway maples appear to be most susceptible to the disease, but red and sugar maples are also susceptible. Because Norway maple is an exotic and widely planted as a “street” tree the disease is more apparent in urban and suburban areas.

The *Verticillium* fungi that cause the disease are soil-borne, and initially infect the tree via root wounds. Once inside the tree, spores of the fungus can be transported via the water conduction system. Acute symptoms at first include wilting, drying, and browning of leaves, usually of one or a few individual branches. Death or “flagging” of individual branches is very conspicuous, and indicates that the sapwood of the current year has been infected. Severely infected trees may have up to half or more of the total crown area damaged in a single year, but this is the exception. Trees that have lost more than half the crown will likely need to be removed and replaced. More often the symptoms only slowly progress to other branches in subsequent years, or may be intermittent, with no further branch dieback for one or more years.

Trees showing wilt symptoms in only a few branches or a small portion of the crown can be helped by promoting good tree growth. Watering to prevent or alleviate drought stress is important, especially this time of year. Removal of the infected branches as soon as practical after the disease is recognized can also help reduce the rate of spread. Diseased branches (those with wilted leaves or flagging) will not recover. Pruning out the infected wood can provide the tree time to overcome the infection. It is especially important to clean pruning tools with alcohol or a weak solution of bleach after each cut, so that the fungus is not transferred to other branches or trees.

Fir-Fern and Fir-Fireweed Rusts (*Uredinopsis* spp., and *Pucciniastrum epilobii*, respectively) – These two foliage diseases of balsam fir occur to a greater or lesser extent every year, and are common throughout the state. Although there have been no reports of significant problems with these diseases this year, Christmas tree growers especially will want to assess disease status within their local areas. Now is the best time to eradicate the alternate host plants (that is, the ferns and/or the fireweed) where they may occur within 100 – 150 feet of susceptible balsam fir. There are herbicide formulations (glyphosate and others) that will control both ferns and fireweeds. On some sites, re-treatment for a second year may be necessary for best control. Fireweed is now in flower, and its conspicuous purple-pink flowers will indicate areas that may warrant control measures. Additionally, it is especially important to treat the fireweed early, before it goes to seed.

Sudden Oak Death Survey (*Phytophthora ramorum*) – Based on surveys of four watersheds last year (Gardiner, Brunswick, Wells, and Fryeburg) and three watersheds this year (Clinton, West Paris, and Standish) *Phytophthora ramorum* has not yet been found in natural forest areas in Maine. The current survey of 2008 has included three sample periods, one each in April, May, and June. All sampling has been negative for pathogen presence. Sampling will resume at the latter three sites in September, October, and November.

Currently, the disease is known to occur in natural forest stands (primarily oak species) only in California, Oregon, and Washington. The Maine survey is being conducted because this pathogen has a wide woody-plant host range, and because many susceptible species are important to the nursery and landscape trades. Therefore, the potential exists that the pathogen may be moved from infested to non-infested areas in soil or by introduction of infected nursery stock.

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Maine Forest Service
Forest Health and Monitoring Division